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Open Beauty production from small to large systems with ALICE

In this contribution, the final measurements of beauty production using beauty-decay electrons, non-prompt D^+ , D^0 , D_s and beauty-tagged jets in pp collisions at $\sqrt{s} = 5.02$ TeV, which provide very important tests of perturbative QCD calculations.

Measurements of beauty-tagged jet production down to $p_T = 10$ GeV/ c in p-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV will be also discussed and they are crucial to investigate the effects of cold nuclear matter on their production. In heavy-ion collisions, the latest results on the centrality dependence of R_{AA} of beauty-decay electrons and non-prompt D^0 and D_s in Pb-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV will provide important constraint to the in-medium mass dependent energy loss and hadronisation. The elliptic flow of beauty-decay electrons will help to test whether beauty quark thermalises in the medium.

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